



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

APR 17 2014

Kelly McQueeney
Associate Director of Project Support Services and Remediation
Harvard University Environmental Health, Safety and Emergency Management
46 Blackstone Street
Cambridge, Massachusetts 02139

Re: PCB Cleanup and Disposal Approval under 40 CFR §§ 761.61(a) and (c)
and § 761.79(h)
William James Hall
Harvard University
Cambridge, Massachusetts

Dear Ms. McQueeney:

This is in response to the President and Fellows of Harvard College (Harvard) Notification¹ for approval of a proposed plan to address PCB contamination located on the William James Hall roof at 33 Kirkland Street, Cambridge, Massachusetts. Specifically, Harvard has identified PCB-contaminated materials located on the penthouse (the Site) that exceed the allowable PCB levels under 40 CFR § 761.20(a), § 761.61, and § 761.62.

In its Notification Harvard has proposed the following PCB cleanup and disposal plan:

- Remove all penthouse PCB caulk with greater than or equal to (\geq) 50 parts per million (ppm), metal flashing, membrane beneath flashing, and louver, and dispose as a *PCB bulk product waste* in a RCRA hazardous waste landfill in accordance with 40 CFR § 761.62(a);
- Remove residual caulk by lightly grinding the *porous surfaces* remaining in place and dispose of as a \geq 50 ppm *PCB remediation waste* in a RCRA hazardous waste landfill in accordance with § 761.61(a)(5)(i)(B)(2)(iii);

¹ The Notification was prepared by Woodard & Curran on behalf of the President and Fellows of Harvard College (Harvard) to satisfy the requirements under 40 CFR §§ 761.61(a) and (c). Information was submitted dated November 8, 2013 (PCB Remediation Plan) and March 5, 2014 (email response to EPA questions concerning sampling). These submittals shall be referred to as the "Notification".

- Prior to encapsulation, conduct sampling of the decontaminated *porous surfaces* to confirm PCB concentrations remaining in place;
- Encapsulate the *porous surfaces* located directly in contact with the PCB caulk with an epoxy coating and collect post-encapsulation verification samples;
- Prepare a long-term monitoring and maintenance implementation plan (MMIP) if PCB concentrations greater than ($>$) 25 ppm remain at the Site; and,
- Prepare a deed notice if PCB concentrations > 1 ppm remain at the Site.

With exception of the verification sampling requirements under § 761.61(a)(6), the information provided in the Notification meets the requirements under 40 CFR § 761.62(a) for removal of PCB caulk and PCB-contaminated building materials, and 40 CFR § 761.61(a) and (c) and § 761.79(h) for decontamination and/or encapsulation of the *porous surfaces*.

Harvard has proposed a verification sampling frequency based on the type of caulk joint. (See Attachment 1, Condition 13.a.ii). Based on the PCB concentrations in the caulk, the proposed removal plan, and the Site location, EPA has determined that the alternative sampling is reasonable and will not create an unreasonable risk of injury to public health or the environment. EPA may approve this deviation from the verification sampling requirements under § 761.61(c).

Harvard may proceed with its plan in accordance with 40 CFR §§ 761.61(a) and (c); § 761.62(a); § 761.79(h); its Notification; and, this Approval, subject to the conditions of Attachment 1.

Under this Approval, EPA is reserving its rights to require additional cleanup and/or mitigation measures should the results of the long-term sampling indicate that an unreasonable risk to building users remains following the abatement activities.

Questions and correspondence regarding this Approval should be directed to:

Kimberly N. Tisa, PCB Coordinator (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

EPA shall not consider this project complete until it has received all submittals required under this Approval. Please be aware that upon EPA receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Sincerely,

A handwritten signature in blue ink, appearing to read "James T. Owens III", with a stylized flourish at the end.

James T. Owens III, Director
Office of Site Remediation & Restoration

cc Jeffrey Hamel, Woodard & Curran
MassDEP - Boston
File

Attachment 1 – PCB Approval Conditions

ATTACHMENT 1:

**PCB CLEANUP AND DISPOSAL APPROVAL CONDITIONS
WILLIAM JAMES HALL ROOF – PENTHOUSE AREA (the Site)
HARVARD UNIVERSITY
33 KIRKLAND STREET
CAMBRIDGE, MASSACHUSETTS**

GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to the *PCB bulk product waste* and the *PCB remediation waste* located at the Site and identified in the Notification.
 - a. In the event that the President and Fellows of Harvard College (Harvard) conducts any repairs, renovations, and/or demolition on the mechanical equipment room or associated stairwell façade, Harvard shall conduct an investigation to determine if PCBs are present that are regulated under the federal PCB regulations at 40 CFR Part 761. In this event, Harvard will be required to notify EPA and to clean up the PCB-contaminated materials in accordance with 40 CFR Part 761.
 - b. The requirement to investigate the mechanical equipment room and/or associated stairwell façade in the event of repairs, renovations, and/or demolition shall be memorialized on a deed notation (see Condition 21).
2. Harvard shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.
3. In the event that the cleanup plan described in the Notification differs from the conditions specified in this Approval, the conditions of this Approval shall govern.
4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.
5. Harvard must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, Harvard shall contact EPA within 24 hours for direction on PCB cleanup and sampling requirements.

6. Harvard is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time Harvard has or receives information indicating that Harvard or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.
7. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by Harvard are authorized to conduct the activities set forth in the Notification. Harvard is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.
8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release Harvard from compliance with any applicable requirements of federal, state or local law; or 3) release Harvard from liability for, or otherwise resolve, any violations of federal, state or local law.
9. Failure to comply with the Approval conditions specified herein shall constitute a violation of the requirement in § 761.50(a) to store or dispose of PCB waste in accordance with 40 CFR Part 761 Subpart D.

NOTIFICATION AND CERTIFICATION CONDITIONS

10. This Approval may be revoked if the EPA does not receive written notification from Harvard of its acceptance of the conditions of this Approval within 10 business days of receipt.
11. Harvard shall submit the following information for EPA review and/or approval:
 - a. a certification signed by its selected abatement contractor, stating that the contractor(s) has read and understands the Notification, and agrees to abide by the conditions specified in this Approval;
 - b. a contractor work plan, prepared and submitted by the selected abatement contractor(s) describing the containment and air monitoring that will be employed during abatement activities. This work plan should also include information on how and where wastes will be stored and disposed of, and on how field equipment will be decontaminated; and,
 - c. a certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the extraction and analytical method requirements and quality assurance requirements specified in the Notification and in this Approval.

DECONTAMINATION AND DISPOSAL CONDITIONS

12. To the maximum extent practical, engineering controls, such as barriers, and removal techniques, such as the use of HEPA ventilated tools, shall be utilized during removal processes. In addition, to the maximum extent possible, disposable equipment and materials, including PPE, will be used to reduce the amount of decontamination necessary.
13. All visible residues of PCB-contaminated caulk (i.e., *PCB bulk product waste*) shall be removed as described in the Notification.
 - a. The cleanup standard for *porous surfaces* remaining in-place shall be less than or equal to (\leq) 25 parts per million (ppm).
 - i) Verification sampling for decontaminated *porous surfaces* shall be performed on a bulk basis (i.e., mg/kg) and reported on a dry weight analysis. Verification sampling for *porous surfaces* shall be conducted in accordance with the EPA Region 1 *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs) Revision 4, May 5, 2011*, at a maximum depth interval of 0.5 inches.
 - ii) Verification sampling shall be conducted at the following frequency:
 - (1) Area 1- one sample for each inner and outer wall (nine (9) samples total);
 - (2) Area 2- one sample per joint for the first three joints and one sample every third joint, thereafter (eight (8) samples total); and,
 - (3) Area 3- one sample per louver (one (1) sample total).
 - b. Chemical extraction for PCBs shall be conducted using Method 3500B/3540C of SW-846; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction/analytical method(s) is validated according to Subpart Q.
 - c. In the event that the ≤ 25 ppm cleanup standard for *porous surfaces* cannot be met the following contingency shall be implemented:
 - i) *Porous surfaces* in direct contact with PCB caulk shall be encapsulated using an epoxy coating;

- ii) Wipe sampling of the encapsulated *porous surfaces* shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. $\mu\text{g}/100\text{ cm}^2$). Chemical extraction for PCBs shall be conducted using Method 3500B/3540C of SW-846 and chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another method(s) is validated according to Subpart Q. The laboratory reporting limit shall be $\leq 1\text{ }\mu\text{g}/100\text{ cm}^2$; and,
 - iii) Harvard shall submit a monitoring and maintenance implementation plan (MMIP) to monitor the long-term effectiveness of the encapsulant. (see Condition 18).
14. PCB waste (at any concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with 40 CFR § 761.40; stored in a manner consistent with 40 CFR § 761.65; and, disposed of in accordance with 40 CFR § 761.61 or § 761.62, unless otherwise specified below.
- a. Decontamination wastes and residues shall be disposed of in accordance with 40 CFR § 761.79(g)(6).
 - b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).
 - c. PCB-contaminated water generated during decontamination shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

INSPECTION, MODIFICATION AND REVOCATION CONDITIONS

15. Harvard shall allow any authorized representative of the Administrator of the EPA to inspect the Site and to inspect records and take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by Harvard to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.
16. Any proposed modification(s) in the plan, specifications, or information in the Notification must be submitted to EPA no less than 14 calendar days prior to the proposed implementation of the change. Such proposed modifications will be subject to the procedures of 40 CFR § 761.61(a)(3)(ii). If such modification involves a change in the use of the Site which results in exposures not considered in the Notification, the EPA may revoke, suspend, and/or modify this Approval upon finding that this cleanup and disposal action may pose an unreasonable risk of injury to health or the environment due to the change in use. EPA may take similar action if the EPA does not receive requested information needed from Harvard to make a determination regarding potential risk.

17. Any misrepresentation or omission of any material fact in the Notification or in any records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
18. Within 60 days of completion of the work authorized under this Approval, Harvard shall submit for EPA's review and approval, a detailed MMIP for the surface encapsulants. Harvard shall incorporate any changes to the MMIP required by EPA.
 - a. The MMIP shall include: a description of the activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities; sampling protocols, sampling frequency, and analytical criteria; and reporting requirements.
 - b. The MMIP shall include a communications component which details how the maintenance and monitoring results will be communicated to the Site users, including building users, other on-site workers, and interested stakeholders.
 - c. The MMIP also shall include a worker training component for maintenance workers or for any person that will be conducting work that could impact the building coatings/barriers.
 - d. Harvard shall submit the results of these long-term monitoring and maintenance activities to EPA. Based on its review of the results, EPA may determine that modification to the MMIP is necessary in order to monitor and/or evaluate the long-term effectiveness of the coatings and/or barriers.
 - e. Activities required under the MMIP shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary.
 - f. A copy of the MMIP shall be attached to the deed notation (see Condition 21).

RECORDKEEPING AND REPORTING CONDITIONS

19. Harvard shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the cleanup and disposal and the analytical sampling shall be established and maintained by Harvard in one centralized location, until such time as EPA approves in writing a request for an alternative disposition of such records. All records shall be made available for inspection to authorized representatives of EPA.

20. Harvard shall submit a final report as both a hard copy and electronic version, to the EPA within 60 days of completion of the activities authorized under this Approval. At a minimum, this final report shall include: a short narrative of the project activities with photo-documentation; characterization and confirmation sampling analytical results; copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCB waste disposed of; copies of manifests and bills of lading; and copies of certificates of disposal or similar certifications issued by the disposer.
21. Within 60 days of completion of the cleanup activities described in the Notification and authorized by this Approval, and as required under §761.61(a)(8)(i)(B), Harvard shall submit to EPA a certification, signed by an approving official, that it has recorded the notation on the deed as required under §761.61(a)(8)(i)(A). A copy of the notation on the deed must also be submitted.
 - a. In the event that Harvard is able to achieve a PCB cleanup standard of less than ($<$) 1 ppm at the Site, the deed notation and certification and MMIP (Condition 18) requirements shall not apply.
22. As required under Condition 18 of this Approval, Harvard shall submit the results of the long-term monitoring and maintenance activities to EPA as specified in the final MMIP to be approved by EPA. In the event that Harvard is able to achieve a PCB cleanup standard of ≤ 25 ppm at the Site, the MMIP requirement shall not apply.
23. Required submittals shall be mailed to:

Kimberly N. Tisa, PCB Coordinator
United States Environmental Protection Agency
5 Post Office Square, Suite 100 – (OSRR07-2)
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527
24. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self-disclosure or penalty policies.

END OF ATTACHMENT 1